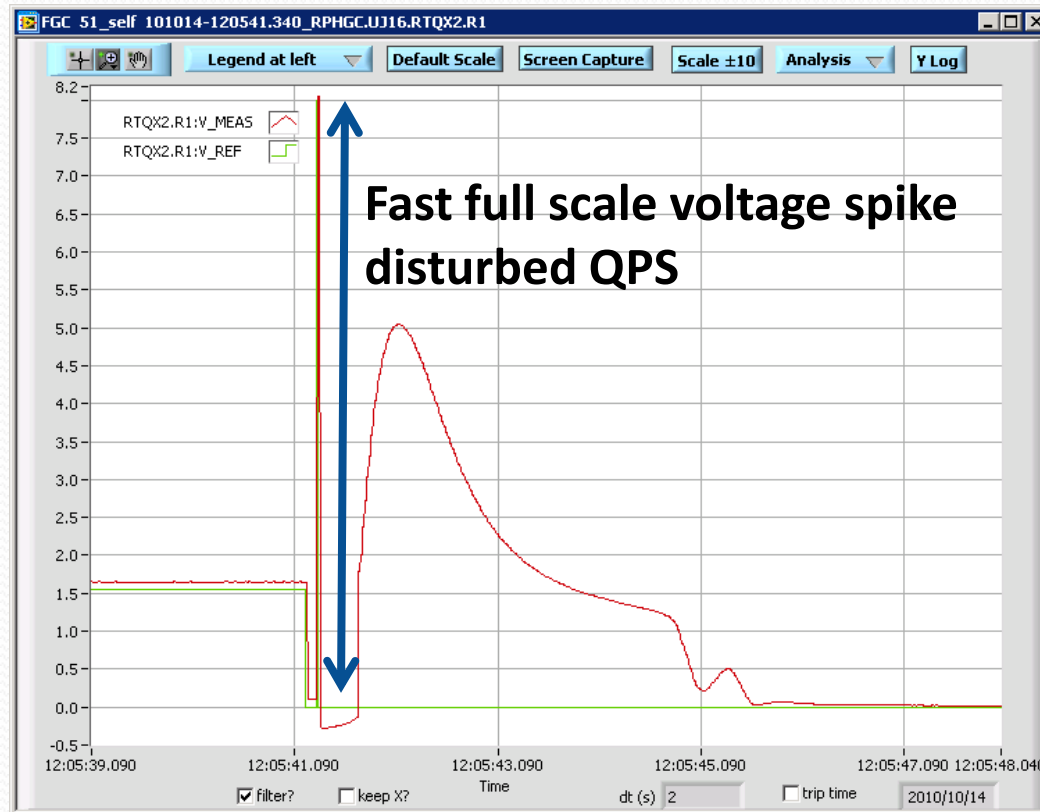


Investigation of the trip of RPHGC.UJ16.RTQX2.R1 at 12:05:41 on October 14th 2010

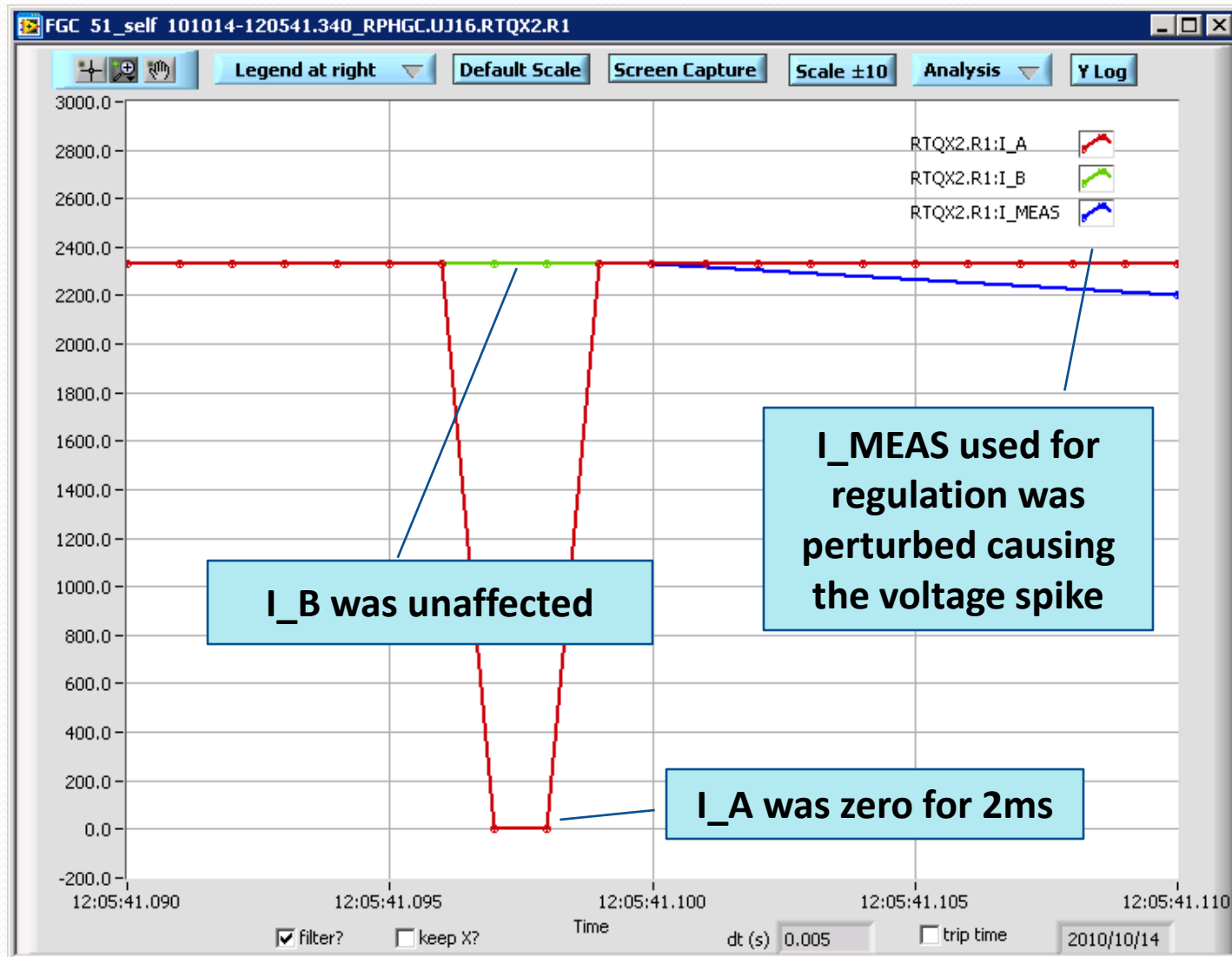
Quentin King
Stephen Page
Ludovic Charnay
Hugues Thiesen
Valerie Montabonnet

What happened?

- A glitch in the current measurement resulted in a full scale spike in the applied voltage
- This caused the QPS to fire the quench heaters



Current measurement I_A was lost for 2ms

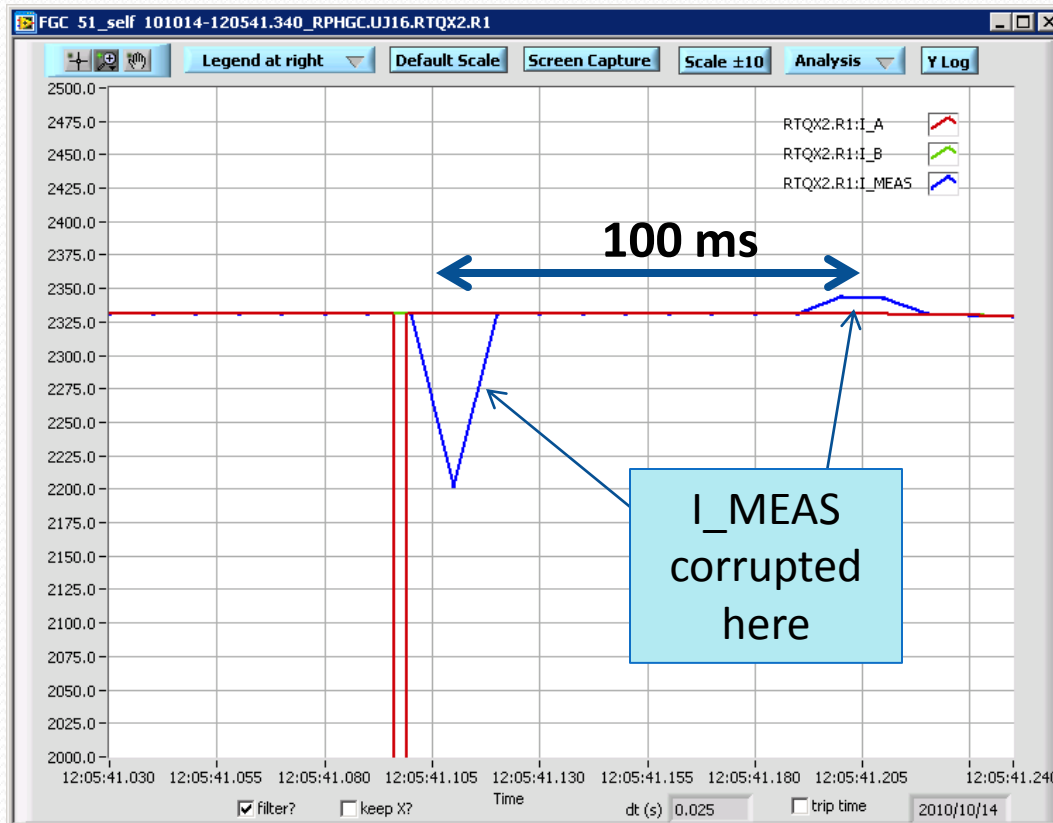


In more detail...

- A problem on the fibre signal from ADC A caused two consecutive milliseconds to have a bad status.
- The measurement I_A was forced to zero for these milliseconds.
- The software switched immediately to use the good channel only (I_B) and it SHOULD have stayed with channel B only for 200ms after I_A became good again.
- **Due to a bug, this was not the actual behaviour.**
- Instead, 20ms after I_A become good, the software switched back to using both channels.

I_MEAS filter

- The I_MEAS value used for the regulation uses a filter with duration 120ms so the presence of the two zero samples in the history of I_A corrupted I_MEAS



Event log shows timings

I_MEAS
good again
after only
20ms

14/10/2010 03:25:15.807000	STATE.PC	IDLE	SET
14/10/2010 12:05:41.102000	MEAS.A.ST_MEAS	FLT_FRAME_ERR	SET
14/10/2010 12:05:41.102000	MEAS.A.ST_MEAS	FLT_NO_FRAME	SET
14/10/2010 12:05:41.102000	MEAS.A.ST_MEAS	V_MEAS_OK	CLR
14/10/2010 12:05:41.102000	MEAS.A.ST_MEAS	I_MEAS_OK	CLR
14/10/2010 12:05:41.102000	DEVICE.WARNINGS	I_MEAS	SET
14/10/2010 12:05:41.122000	MEAS.A.ST_MEAS	FLT_FRAME_ERR	CLR
14/10/2010 12:05:41.122000	MEAS.A.ST_MEAS	FLT_NO_FRAME	CLR
14/10/2010 12:05:41.122000	MEAS.A.ST_MEAS	V_MEAS_OK	SET
14/10/2010 12:05:41.122000	MEAS.A.ST_MEAS	I_MEAS_OK	SET
14/10/2010 12:05:41.122000	DEVICE.WARNINGS	I_MEAS	CLR
14/10/2010 12:05:41.202000	DEVICE.WARNINGS	FB_LOOP	SET
14/10/2010 12:05:41.317000	FGC.ST_UNLATCHED	VS_POWER_ON	CLR
14/10/2010 12:05:41.317000	FGC.ST_UNLATCHED	PC_PERMIT	CLR
14/10/2010 12:05:41.317000	DIG.STATUS	SLOW_ABORT	SET
14/10/2010 12:05:41.317000	DIG.STATUS	PC_PERMIT	CLR
14/10/2010 12:05:41.317000	DIG.STATUS	VLOOP_OK	CLR
14/10/2010 12:05:41.317000	DIG.STATUS	VS_POWER_ON	CLR
14/10/2010 12:05:41.317000	VS.STATE	INVALID	SET
14/10/2010 12:05:41.317000	STATE.PC	STOPPING	SET
14/10/2010 12:05:41.320884	DIM.VS	STA SUB 4	ok
14/10/2010 12:05:41.320884	DIM.VS	STA SUB 3	ok
14/10/2010 12:05:41.320884	DIM.VS	STA SUB 2	ok
14/10/2010 12:05:41.320884	DIM.VS	STA SUB 1	ok
14/10/2010 12:05:41.320884	DIM.VS	STA VS VLOOP SATURATED	no
14/10/2010 12:05:41.320884	DIM.VS	TRG EXTERNAL FAST ABORT	FAULT
14/10/2010 12:05:41.320884	DIM.VS	STA OFF RECEIVED	YES
14/10/2010 12:05:41.320884	DIM.VS	TRIGGER	SET

Search: 4 / 646

Save

History of ADC glitches

- 40 FGCs use external high precision ADCs (2 per FGC)
- These are in RB, RQF, RQD and the inner triplet converters
- Error counters are available in the FGC but are cleared following an FGC reset or on demand

Last reset dates of FGCs with external ADCs

FGCRun+ - RBAC token expires Thu Oct 14 22:27:00 2010

File Connect Disconnect Gateway FGC Database List Analysis RBAC Help Connect devices: qX

PL.OP.VS.PC I_REF I_MEAS V_REF V_MEAS 1 / 40 / 424 Username: qking Password: *****

PL.OP.VS.PC	I_REF	I_MEAS	V_REF	V_MEAS	1 / 40 / 424	Username: qking	Password: *****
LK.NL.RD.IL	685.81	685.81	0.71	0.75	RPHE.VA23.RQD.A12	23/02/2010 10:04:00	
LK.NL.RD.IL	717.00	717.00	0.65	0.63	RPHE.VA23.RQF.A12	22/07/2010 13:55:14	
LK.NL.RD.IL	452.80	452.80	0.27	0.29	RPHFC.VA23.RQX.L2	31/08/2010 15:21:21	
LK.NL.RD.IL	325.17	325.17	0.30	0.31	RPHGC.VA23.RTQX2.L2	23/02/2010 10:04:00	
LK.NL.RD.IL	757.20	757.20	-0.22	0.63	RPTE.VA23.RB.A12	20/07/2010 16:45:35	
LK.NL.RD.IL	685.70	685.70	0.74	0.77	RPHE.VA27.RQD.A23	23/02/2010 10:04:00	
LK.NL.RD.IL	716.68	716.68	0.67	0.72	RPHE.VA27.RQF.A23	22/07/2010 16:28:29	
LK.NL.RD.IL	453.11	453.11	0.24	0.29	RPHFC.VA27.RQX.R2	23/02/2010 10:04:00	
LK.NL.RD.IL	326.27	326.27	0.29	0.30	RPHGC.VA27.RTQX2.R2	02/09/2010 15:16:53	
LK.NL.RD.IL	757.05	757.05	0.51	0.75	RPTE.VA27.RB.A23	20/07/2010 16:45:35	
LK.NL.RD.IL	685.83	685.83	0.53	0.57	RPHE.VA43.RQD.A34	23/02/2010 10:04:00	
LK.NL.RD.IL	716.85	716.84	0.58	0.60	RPHE.VA43.RQF.A34	08/04/2010 14:42:35	
LK.NL.RD.IL	756.96	756.96	0.15	1.23	RPTE.VA43.RB.A34	31/08/2010 15:38:07	
LK.NL.RD.IL	685.97	685.97	0.53	0.57	RPHE.VA47.RQD.A45	23/02/2010 10:04:00	
LK.NL.RD.IL	716.88	716.88	0.57	0.61	RPHE.VA47.RQF.A45	22/03/2010 09:11:15	
LK.NL.RD.IL	756.70	756.70	0.72	0.98	RPTE.VA47.RB.A45	20/07/2010 16:45:35	
LK.NL.RD.IL	686.07	686.08	0.43	0.50	RPHE.VA63.RQD.A56	20/07/2010 13:41:01	
LK.NL.RD.IL	717.20	717.20	0.46	0.51	RPHE.VA63.RQF.A56	20/07/2010 15:50:10	
LK.NL.RD.IL	756.90	756.91	-1.07	0.83	RPTE.VA63.RB.A56	20/07/2010 16:45:35	
LK.NL.RD.IL	685.80	685.81	0.50	0.54	RPHE.VA67.RQD.A67	23/02/2010 10:04:00	
LK.NL.RD.IL	716.90	716.89	0.53	0.57	RPHE.VA67.RQF.A67	23/02/2010 10:04:00	
LK.NL.RD.IL	757.19	757.18	0.24	0.74	RPTE.VA67.RB.A67	20/07/2010 16:45:35	
LK.NL.RD.IL	685.45	685.45	0.75	0.79	RPHE.VA83.RQD.A78	07/04/2010 00:38:02	
LK.NL.RD.IL	716.55	716.55	0.73	0.77	RPHE.VA83.RQF.A78	07/04/2010 00:37:54	
LK.NL.RD.IL	453.11	453.12	0.23	0.34	RPHFC.VA83.RQX.L8	31/08/2010 15:10:32	
LK.NL.RD.IL	325.24	325.24	0.34	0.34	RPHGC.VA83.RTQX2.L8	31/08/2010 15:10:32	
LK.NL.RD.IL	756.47	756.47	0.65	0.68	RPTE.VA83.RB.A78	01/09/2010 16:32:19	
LK.NL.RD.IL	685.63	685.63	0.73	0.77	RPHE.VA87.RQD.A81	17/09/2010 17:34:45	
LK.NL.RD.IL	716.72	716.72	0.69	0.73	RPHE.VA87.RQF.A81	01/06/2010 08:30:21	
LK.NL.RD.IL	452.74	452.73	0.26	0.31	RPHFC.VA87.RQX.R8	23/02/2010 10:04:00	
LK.NL.RD.IL	327.11	327.12	0.32	0.31	RPHGC.VA87.RTQX2.R8	23/02/2010 10:04:00	
LK.NL.RD.IL	756.83	756.83	0.08	0.50	RPTE.VA87.RB.A81	01/09/2010 16:50:20	
LK.NL.RD.IL	408.22	408.22	0.39	0.22	RPHFC.VJ14.RQX.L1	23/02/2010 10:04:00	
LK.NL.RD.IL	289.46	289.45	0.18	0.21	RPHGC.VJ14.RTQX2.L1	23/02/2010 10:04:00	
LK.NL.RD.IL	408.16	408.16	0.29	0.23	RPHFC.VJ16.RQX.R1	23/02/2010 10:04:00	
LK.NL.RD.IL	290.49	290.49	0.20	0.23	RPHGC.VJ16.RTQX2.R1	23/02/2010 10:04:00	
LK.NL.RD.IL	408.25	408.24	0.34	0.39	RPHFC.VJ58.RQX.R5	23/02/2010 10:04:00	
LK.NL.RD.IL	289.67	289.67	0.38	0.38	RPHGC.VJ56.RTQX2.R5	23/02/2010 10:04:00	
LK.NL.RD.IL	408.32	408.32	0.32	0.46	RPHFC.VJ55.RQX.L5	04/04/2010 10:01:28	
LK.NL.RD.IL	289.12	289.12	0.45	0.42	RPHGC.VJ55.RTQX2.L5	08/04/2010 11:06:13	

g time.start Send

16 out of 40 were last reset in February

FGCRun+ - RBAC token expires Thu Oct 14 22:27:00 2010

File Connect Disconnect Gateway FGC Database List Analysis RBAC Help Connect devices: qX

PL.OP.VS.PC I_REF I_MEAS V_REF V_MEAS 16 / 40 / 424 Username: qking Password: *****

PL.OP.VS.PC	I_REF	I_MEAS	V_REF	V_MEAS	16 / 40 / 424	Username: qking	Password: *****
LK.NL.RD.IL	685.81	685.81	0.70	0.74	RPHE.UA23.RQD.A12	23/02/2010	10:04:00
LK.NL.RD.IL	717.00	716.99	0.66	0.69	RPHE.UA23.RQF.A12	22/07/2010	13:55:14
LK.NL.RD.IL	452.80	452.80	0.27	0.30	RPHEC.UA23.RQX.L2	31/08/2010	15:21:21
LK.NL.RD.IL	325.17	325.17	0.29	0.31	RPHEC.UA23.RTQX2.L2	23/02/2010	10:04:00
LK.NL.RD.IL	757.20	757.20	-0.03	0.88	RPTE.UA23.RB.A12	20/07/2010	16:45:35
LK.NL.RD.IL	685.70	685.70	0.73	0.77	RPHE.UA27.RQD.A23	23/02/2010	10:04:00
LK.NL.RD.IL	716.68	716.68	0.70	0.73	RPHE.UA27.RQF.A23	22/07/2010	16:28:29
LK.NL.RD.IL	453.11	453.11	0.23	0.29	RPHEC.UA27.RQX.R2	23/02/2010	10:04:00
LK.NL.RD.IL	326.27	326.27	0.29	0.30	RPHEC.UA27.RTQX2.R2	02/09/2010	15:16:53
LK.NL.RD.IL	757.05	757.05	0.80	1.00	RPTE.UA27.RB.A23	20/07/2010	16:45:35
LK.NL.RD.IL	685.83	685.83	0.53	0.59	RPHE.UA43.RQD.A34	23/02/2010	10:04:00
LK.NL.RD.IL	716.85	716.84	0.57	0.62	RPHE.UA43.RQF.A34	08/04/2010	14:42:35
LK.NL.RD.IL	756.96	756.96	0.24	0.95	RPTE.UA43.RB.A34	31/08/2010	15:38:07
LK.NL.RD.IL	685.97	685.97	0.54	0.59	RPHE.UA47.RQD.A45	23/02/2010	10:04:00
LK.NL.RD.IL	716.88	716.88	0.57	0.61	RPHE.UA47.RQF.A45	22/03/2010	09:11:15
LK.NL.RD.IL	756.70	756.70	0.49	-0.31	RPTE.UA47.RB.A45	20/07/2010	16:45:35
LK.NL.RD.IL	686.07	686.07	0.43	0.48	RPHE.UA63.RQD.A56	20/07/2010	13:41:01
LK.NL.RD.IL	717.20	717.20	0.47	0.52	RPHE.UA63.RQF.A56	20/07/2010	15:50:10
LK.NL.RD.IL	756.90	756.90	-0.78	-0.13	RPTE.UA63.RB.A56	20/07/2010	16:45:35
LK.NL.RD.IL	685.80	685.81	0.50	0.54	RPHE.UA67.RQD.A67	23/02/2010	10:04:00
LK.NL.RD.IL	716.90	716.90	0.51	0.55	RPHE.UA67.RQF.A67	23/02/2010	10:04:00
LK.NL.RD.IL	757.19	757.19	0.33	0.79	RPTE.UA67.RB.A67	20/07/2010	16:45:35
LK.NL.RD.IL	685.45	685.45	0.74	0.78	RPHE.UA83.RQD.A78	07/04/2010	00:38:02
LK.NL.RD.IL	716.55	716.55	0.73	0.77	RPHE.UA83.RQF.A78	07/04/2010	00:37:54
LK.NL.RD.IL	453.11	453.11	0.23	0.34	RPHEC.UA83.RQX.L8	31/08/2010	15:10:32
LK.NL.RD.IL	325.24	325.24	0.34	0.33	RPHEC.UA83.RTQX2.L8	31/08/2010	15:10:32
LK.NL.RD.IL	756.47	756.47	0.62	-0.24	RPTE.UA83.RB.A78	01/09/2010	16:32:19
LK.NL.RD.IL	685.63	685.63	0.73	0.77	RPHE.UA87.RQD.A81	17/09/2010	17:34:45
LK.NL.RD.IL	716.72	716.71	0.69	0.73	RPHE.UA87.RQF.A81	01/06/2010	08:30:21
LK.NL.RD.IL	452.74	452.73	0.27	0.32	RPHEC.UA87.RQX.R8	23/02/2010	10:04:00
LK.NL.RD.IL	327.11	327.12	0.32	0.32	RPHEC.UA87.RTQX2.R8	23/02/2010	10:04:00
LK.NL.RD.IL	756.83	756.83	1.00	0.57	RPTE.UA87.RB.A81	01/09/2010	16:50:20
LK.NL.RD.IL	408.22	408.22	0.37	0.23	RPHEC.UJ14.RQX.L1	23/02/2010	10:04:00
LK.NL.RD.IL	289.46	289.46	0.19	0.21	RPHEC.UJ14.RTQX2.L1	23/02/2010	10:04:00
LK.NL.RD.IL	408.16	408.16	0.28	0.21	RPHEC.UJ16.RQX.L1	23/02/2010	10:04:00
LK.NL.RD.IL	290.49	290.49	0.20	0.22	RPHEC.UJ16.RTQX2.R1	23/02/2010	10:04:00
LK.NL.RD.IL	408.25	408.25	0.33	0.38	RPHEC.UJ56.RQX.R5	23/02/2010	10:04:00
LK.NL.RD.IL	289.67	289.66	0.38	0.38	RPHEC.UJ56.RTQX2.R5	23/02/2010	10:04:00
LK.NL.RD.IL	408.32	408.31	0.31	0.44	RPHEC.U5C55.RQX.L5	04/04/2010	10:01:28
LK.NL.RD.IL	289.12	289.12	0.45	0.43	RPHEC.U5C55.RTQX2.L5	08/04/2010	11:06:13

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NO FRAME received error counts

FGCRun+ - RBAC token expires Thu Oct 14 22:27:00 2010

File Connect Disconnect Gateway FGC Database List Analysis RBAC Help Connect devices: qX

PL.OP.VS.PC I_REF I_MEAS V_REF V_MEAS 40 / 40 / 424 Username: qking Password: *****

PL.OP.VS.PC	I_REF	I_MEAS	V_REF	V_MEAS		
LK.NL.RD.IL	685.81	685.80	0.71	0.74	RPHE.UA23.RQD.A12	0,0
LK.NL.RD.IL	717.00	717.00	0.67	0.71	RPHE.UA23.RQF.A12	0,0
LK.NL.RD.IL	452.80	452.80	0.27	0.29	RPHFC.UA23.RQX.L2	0,0
LK.NL.RD.IL	325.17	325.17	0.29	0.31	RPHGC.UA23.RTQX2.L2	0,0
LK.NL.RD.IL	757.20	757.20	-0.08	1.01	RPTE.UA23.RB.A12	0,0
LK.NL.RD.IL	685.70	685.70	0.73	0.77	RPHE.UA27.RQD.A23	0,0
LK.NL.RD.IL	716.68	716.67	0.70	0.73	RPHE.UA27.RQF.A23	0,0
LK.NL.RD.IL	453.11	453.11	0.24	0.30	RPHFC.UA27.RQX.R2	0,0
LK.NL.RD.IL	326.27	326.27	0.29	0.30	RPHGC.UA27.RTQX2.R2	0,0
LK.NL.RD.IL	757.05	757.05	0.68	1.15	RPTE.UA27.RB.A23	0,0
LK.NL.RD.IL	685.83	685.83	0.53	0.57	RPHE.UA43.RQD.A34	0,0
LK.NL.RD.IL	716.85	716.84	0.57	0.61	RPHE.UA43.RQF.A34	0,0
LK.NL.RD.IL	756.96	756.96	0.12	1.62	RPTE.UA43.RB.A34	0,0
LK.NL.RD.IL	685.97	685.97	0.54	0.59	RPHE.UA47.RQD.A45	0,0
LK.NL.RD.IL	716.88	716.88	0.57	0.61	RPHE.UA47.RQF.A45	0,0
LK.NL.RD.IL	756.70	756.70	0.79	1.30	RPTE.UA47.RB.A45	0,0
LK.NL.RD.IL	686.07	686.07	0.44	0.48	RPHE.UA63.RQD.A56	0,0
LK.NL.RD.IL	717.20	717.20	0.47	0.52	RPHE.UA63.RQF.A56	0,0
LK.NL.RD.IL	756.90	756.91	-0.95	1.08	RPTE.UA63.RB.A56	0,0
LK.NL.RD.IL	685.80	685.81	0.47	0.52	RPHE.UA67.RQD.A67	0,0
LK.NL.RD.IL	716.90	716.90	0.52	0.56	RPHE.UA67.RQF.A67	0,0
LK.NL.RD.IL	757.19	757.19	0.25	0.38	RPTE.UA67.RB.A67	0,0
LK.NL.RD.IL	685.45	685.45	0.75	0.79	RPHE.UA83.RQD.A78	0,0
LK.NL.RD.IL	716.55	716.55	0.74	0.78	RPHE.UA83.RQF.A78	0,0
LK.NL.RD.IL	453.11	453.11	0.22	0.33	RPHFC.UA83.RQX.L8	1844,1888
LK.NL.RD.IL	325.24	325.24	0.34	0.34	RPHGC.UA83.RTQX2.L8	0,0
LK.NL.RD.IL	756.47	756.47	0.53	0.73	RPTE.UA83.RB.A78	0,0
LK.NL.RD.IL	685.63	685.64	0.71	0.75	RPHE.UA87.RQD.A81	0,0
LK.NL.RD.IL	716.72	716.72	0.67	0.72	RPHE.UA87.RQF.A81	0,0
LK.NL.RD.IL	452.74	452.74	0.25	0.32	RPHFC.UA87.RQX.R8	4868,3811
LK.NL.RD.IL	327.11	327.11	0.32	0.31	RPHGC.UA87.RTQX2.R8	2462,3999
LK.NL.RD.IL	756.83	756.83	0.74	0.96	RPTE.UA87.RB.A81	0,0
LK.NL.RD.IL	408.22	408.21	0.39	0.23	RPHFC.UJ14.RQX.L1	0,0
LK.NL.RD.IL	289.46	289.46	0.19	0.21	RPHGC.UJ14.RTQX2.L1	0,0
LK.NL.RD.IL	408.16	408.16	0.29	0.31	RPHE.UJ16.RQX.R1	0,0
LK.NL.RD.IL	290.49	290.50	0.22	0.22	RPHGC.UJ16.RTQX2.R1	2,0
LK.NL.RD.IL	408.25	408.25	0.33	0.37	RPHE.UJ56.RQD.R5	3050,2747
LK.NL.RD.IL	289.67	289.67	0.37	0.37	RPHGC.UJ56.RTQX2.R5	3924,2775
LK.NL.RD.IL	408.32	408.31	0.31	0.46	RPHFC.USC55.RQX.L5	5156,2532
LK.NL.RD.IL	289.12	289.12	0.45	0.42	RPHGC.USC55.RTQX2.L5	3449,2821

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FRAME ERROR counts

FGCRun+ - RBAC token expires Thu Oct 14 22:27:00 2010

File Connect Disconnect Gateway FGC Database List Analysis RBAC Help Connect devices: QX

PL.OP.VS.PC I_REF I_MEAS V_REF V_MEAS 40 / 40 / 424 Username: qking Password: *****

PL.OP.VS.PC	I_REF	I_MEAS	V_REF	V_MEAS		
LK.NL.RD.IL	685.81	685.81	0.69	0.73	RPHE.UA23.RQD.A12	0,0
LK.NL.RD.IL	717.00	717.00	0.67	0.71	RPHE.UA23.RQF.A12	0,0
LK.NL.RD.IL	452.80	452.80	0.27	0.30	RPHFC.UA23.RQX.L2	0,0
LK.NL.RD.IL	325.17	325.17	0.30	0.30	RPHGC.UA23.RTQX2.L2	0,0
LK.NL.RD.IL	757.20	757.20	-0.17	-0.26	RPTE.UA23.RB.A12	0,0
LK.NL.RD.IL	685.70	685.70	0.73	0.77	RPHE.UA27.RQD.A23	0,0
LK.NL.RD.IL	716.68	716.67	0.70	0.73	RPHE.UA27.RQF.A23	0,0
LK.NL.RD.IL	453.11	453.11	0.24	0.28	RPHFC.UA27.RQX.R2	0,0
LK.NL.RD.IL	326.27	326.27	0.29	0.30	RPHGC.UA27.RTQX2.R2	0,0
LK.NL.RD.IL	757.05	757.05	0.42	-0.23	RPTE.UA27.RB.A23	0,0
LK.NL.RD.IL	685.83	685.83	0.53	0.57	RPHE.UA43.RQD.A34	0,0
LK.NL.RD.IL	716.85	716.84	0.58	0.60	RPHE.UA43.RQF.A34	0,0
LK.NL.RD.IL	756.96	756.96	-0.20	0.55	RPTE.UA43.RB.A34	0,0
LK.NL.RD.IL	685.97	685.97	0.52	0.57	RPHE.UA47.RQD.A45	0,0
LK.NL.RD.IL	716.88	716.88	0.58	0.63	RPHE.UA47.RQF.A45	0,0
LK.NL.RD.IL	756.70	756.70	0.55	-0.18	RPTE.UA47.RB.A45	0,0
LK.NL.RD.IL	686.07	686.07	0.44	0.49	RPHE.UA63.RQD.A56	0,0
LK.NL.RD.IL	717.20	717.20	0.47	0.52	RPHE.UA63.RQF.A56	0,0
LK.NL.RD.IL	756.90	756.91	-1.11	-0.29	RPTE.UA63.RB.A56	0,0
LK.NL.RD.IL	685.80	685.80	0.49	0.54	RPHE.UA67.RQD.A67	0,0
LK.NL.RD.IL	716.90	716.91	0.51	0.56	RPHE.UA67.RQF.A67	0,0
LK.NL.RD.IL	757.19	757.19	0.28	-0.22	RPTE.UA67.RB.A67	0,0
LK.NL.RD.IL	685.45	685.46	0.75	0.80	RPHE.UA83.RQD.A78	0,0
LK.NL.RD.IL	716.55	716.55	0.73	0.77	RPHE.UA83.RQF.A78	0,0
LK.NL.RD.IL	453.11	453.11	0.22	0.33	RPHFC.UA83.RQX.L8	184,758
LK.NL.RD.IL	325.24	325.24	0.34	0.34	RPHGC.UA83.RTQX2.L8	0,0
LK.NL.RD.IL	756.47	756.47	0.81	-0.07	RPTE.UA83.RB.A78	0,0
LK.NL.RD.IL	685.63	685.63	0.73	0.77	RPHE.UA87.RQD.A81	0,0
LK.NL.RD.IL	716.72	716.72	0.69	0.73	RPHE.UA87.RQF.A81	0,0
LK.NL.RD.IL	452.74	452.74	0.25	0.32	RPHFC.UA87.RQX.R8	0,0
LK.NL.RD.IL	327.11	327.12	0.32	0.30	RPHGC.UA87.RTQX2.R8	0,0
LK.NL.RD.IL	756.83	756.83	0.67	0.17	RPTE.UA87.RB.A81	0,0
LK.NL.RD.IL	408.22	408.22	0.38	0.22	RPHFC.UJ14.RQX.L1	0,0
LK.NL.RD.IL	289.46	289.45	0.19	0.21	RPHGC.UJ14.RTQX2.L1	0,0
LK.NL.RD.IL	408.16	408.16	0.28	0.33	RPHE.UJ16.RQX.R1	0,0
LK.NL.RD.IL	290.49	290.49	0.2	0.22	RPHGC.UJ16.RTQX2.R1	2,0
LK.NL.RD.IL	408.25	408.25	0.33	0.38	RPHE.UJ56.RQD.R5	0,0
LK.NL.RD.IL	289.67	289.67	0.38	0.37	RPHGC.UJ56.RTQX2.R5	12,0
LK.NL.RD.IL	408.32	408.32	0.32	0.47	RPHFC.UJ56.RQX.L5	0,0
LK.NL.RD.IL	289.12	289.12	0.45	0.43	RPHGC.UJ56.RTQX2.L5	0,0

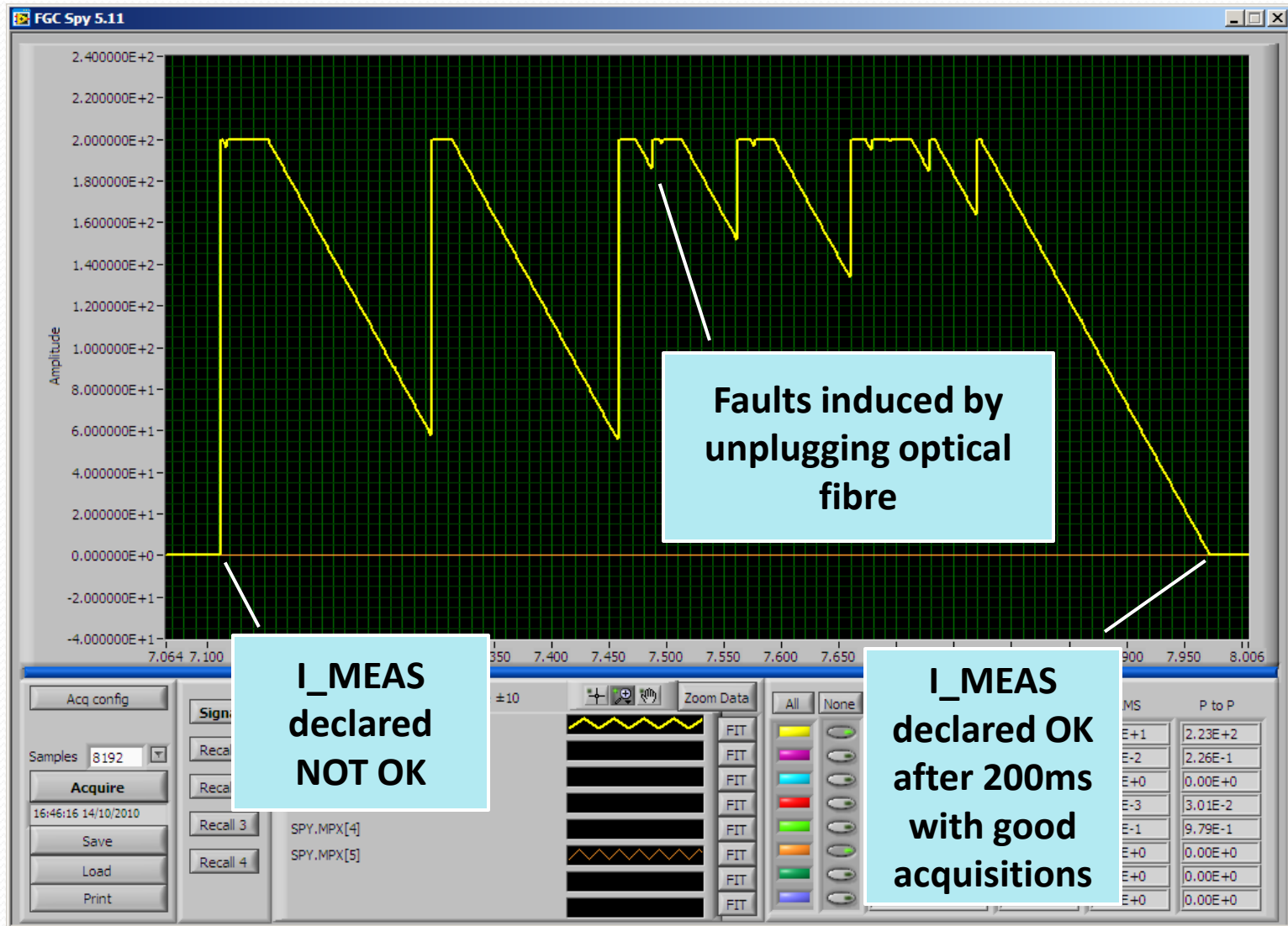
g adc.num_frames_err Send

These need checking!

Software correction

- The missing functionality has been added to version 373.
- Now an acquisition channel must be good for 200ms before it will be used for regulation.
- This will ensure that the I_MEAS filter has only good data and should prevent a glitch in the current causing a glitch in the voltage.

200ms down counter added



Good behaviour of I_MEAS_OK for IA and IB

Timestamp	Source	Event	Action
14/10/2010 16:39:25.862000	MEAS, B, ST_MEAS	FLT_FRAME_ERR	SET
14/10/2010 16:39:25.922000	MEAS, B, ST_MEAS	FLT_FRAME_ERR	CLR
14/10/2010 16:39:26.002000	MEAS, B, ST_MEAS	FLT_FRAME_ERR	SET
14/10/2010 16:39:26.062000	MEAS, B, ST_MEAS	FLT_FRAME_ERR	CLR
14/10/2010 16:39:26.082000	MEAS, B, ST_MEAS	FLT_FRAME_ERR	SET
14/10/2010 16:39:26.142000	MEAS, B, ST_MEAS	FLT_NO_FRAME	CLR
14/10/2010 16:39:26.182000	MEAS, B, ST_MEAS	FLT_FRAME_ERR	CLR
14/10/2010 16:39:26.182000	MEAS, B, ST_MEAS	SIGNAL_STUCK	CLR
14/10/2010 16:39:26.182000	MEAS, B, ST_MEAS	V_MEAS_OK	SET
14/10/2010 16:39:26.382000	MEAS, B, ST_MEAS	IN_USE	SET
14/10/2010 16:39:26.382000	MEAS, B, ST_MEAS	I_MEAS_OK	SET
14/10/2010 16:39:30.002000	MEAS, B, ST_MEAS	FLT_FRAME_ERR	SET
14/10/2010 16:39:30.002000	MEAS, B, ST_MEAS	FLT_NO_FRAME	SET
14/10/2010 16:39:30.002000	MEAS, B, ST_MEAS	V_MEAS_OK	CLR
14/10/2010 16:39:30.002000	MEAS, B, ST_MEAS	I_MEAS_OK	CLR
14/10/2010 16:39:30.022000	MEAS, B, ST_MEAS	IN_USE	CLR
14/10/2010 16:39:30.062000	MEAS, B, ST_MEAS	FLT_FRAME_ERR	CLR
14/10/2010 16:39:30.102000	MEAS, B, ST_MEAS	SIGNAL_STUCK	SET
14/10/2010 16:39:32.242000	MEAS, A, ST_MEAS	FLT_FRAME_ERR	SET
14/10/2010 16:39:32.382000	MEAS, A, ST_MEAS	FLT_FRAME_ERR	CLR
14/10/2010 16:39:32.382000	MEAS, A, ST_MEAS	FLT_NO_FRAME	CLR
14/10/2010 16:39:32.382000	MEAS, A, ST_MEAS	SIGNAL_STUCK	CLR
14/10/2010 16:39:32.382000	MEAS, A, ST_MEAS	V_MEAS_OK	SET
14/10/2010 16:39:32.582000	MEAS, A, ST_MEAS	IN_USE	SET
14/10/2010 16:39:32.582000	MEAS, A, ST_MEAS	I_MEAS_OK	SET

ch: SET.*MEAS_OK

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Save

I_B good again after 200ms

I_A good again after 200ms

Deployment of new version

- New version (V373) was deployed at 18:30 on October 14th on RQX.R1 and RTQX2.R1 because this inner triplet is considered fragile and quenches are highly undesirable
- The new version should be deployed on all FGCs with external ADCs as soon as possible (next access?)
- The new version should be deployed everywhere at the next technical stop